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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,399	12/26/2006	Anthony Roberts	292102US8X PCT	2829

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EXAMINER
VISCONTI, GERALDINA

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
03/09/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/582,399	ROBERTS ET AL.	
	Examiner	Art Unit	
	Geraldina Visconti	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/12/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected as being vague and indefinite when it recites “an additive, preferably a dopant”. Regarding claim 1, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d); the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

Claim 7 is rejected as being vague and indefinite when it recites “said additive is present in an amount of 0.05-0.12 wt. %, more preferably 0.08-0.11 wt. % and most preferably around 0.1 wt. % of the total composition”. Regarding claim 7, the phrases "more preferably" and "most preferably" render the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d); the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Regarding claim 7, the phrase “around 0.1 wt. %” also renders the scope of the protection sought unclear.

Claim 9 is rejected as being vague and indefinite when it recites “preferably, upon complex formation”. Regarding claim 9, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d); the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

Claim 19 is rejected as being vague and indefinite when it recites “an oder parameter of at least 0.5, preferably, of at least 0.7”. Regarding claim 19, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d); the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

Claim 25 is rejected as being vague and indefinite when it recites “preferably, in a liquid crystal cell”. Regarding claim 25, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d); the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Roberts et al. (U.S. Patent No. 7,014,891).

Roberts et al. discloses the following:

Brief Summary Text (16):

In a further preferred embodiment of the liquid crystal material of the present invention, the negative-type mesogen is selected from the group comprising MLC-2038, MLC-6608, MLC-6609 and MLC-6610.

Brief Summary Text (39):

This object is solved by a liquid crystal mixture comprising at least one negative-type mesogen comprising at least one soluble, dipolar dopant. The object is also solved for the liquid crystal mixture comprising at least one negative-type mesogen comprising at least one soluble, dipolar dopant wherein: (a) the dopant is organic and comprises at least one fluorinated group and/or at least one cyano end group; and/or. (b) the negative-type mesogen is selected from the group comprising MLC-2038, MLC-6608, MLC-6609 and MLC-6610; and/or (c) the dopant is present in an amount selected from the group consisting of between about 0.01 to about 10 wt % of the mixture; of between about 0.05 to about 5 wt % of the mixture; and of about 0.1 to about 1.5 wt % of the mixture; and/or. (d) the dopant is selected from the group consisting of FMor2, J6, J6a,

J10B, J21, 5DCNQ1 and 13 FPHPIP. This object is also solved by a liquid crystal ceU or a negative-type liquid crystal display, comprising a liquid crystal material comprising at least one negative-type mesogen comprising at least one soluble, dipolar dopant optionally with one or more of the properties of (a) (d) above. This object is also solved by the use of a liquid crystal material comprising at least one negative-type mesogen comprising at least one soluble, dipolar dopant optionally with one or more of the properties of (a) (d) above in an improved LC-material for display applications.

Brief Summary Text (54):

In a preferred embodiment of the invention, small concentrations of soluble, dipolar dopants are used that reduce the response times of negative-type liquid crystals, like, e.g., MLC-2038 MLC-6608, MLC-6609 or MLC-6610 (MLC="Merck Liquid Crystal", obtainable from Merck) preferably MLC-2038 is used.

Brief Summary Text (70):

Surprisingly, the use of the fluorinated dopants with a cyano end group in the liquid crystal material reduces the turn-on time of negative-type liquid crystals, such as MLC-2038, in the order of approximately 16% (FMor2), 20% (J6), and 26% (13FPHPIP). Furthermore, importantly, the decay time is improved by approximately 14% (FMor2), 15% (J6) and 25% (13FPHPIP).

Brief Summary Text (78):

In said method of the present invention, an amount of dopant is added to a negative-type liquid crystal in order to create a new material with improved properties. As a preferred example, a 0.10% by weight mixture of J8 in MLC-2038 shows an

improvement of 20% in the rise time, 15% in the decay time and 340% in the contrast over undoped MLC-2038. According to a more preferred embodiment of the present invention, the dopant is dipolar and soluble in the liquid crystal. According to an even more preferred embodiment of the present invention, the dopant is fluorinated and has one cyano group.

Brief Summary Text (79):

The method of the present invention provides a simple method for improving the properties of negative-type liquid crystals, involving no complex fabrication steps, merely the addition of an inexpensive dopant. When employing said method of the invention for the production of liquid crystal materials, the response times (both rise and decay) are improved, the bulk on-state homogeneous alignment is made more uniform, the contrast of the liquid crystal display is improved whilst the homeotropicity of the host material is mostly improved.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 7,014,891. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to: (a) a composition comprising a liquid crystal material and an additive, preferably a dopant capable of forming a complex with said LC material, (b) a liquid crystal cell comprising this composition, uses thereof and (c) a method of improving the response time of a liquid crystal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geraldina Visconti whose telephone number is (571) 272-1334. The examiner can normally be reached on 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (571) 272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geraldina Visconti/
Primary Examiner, Art Unit 1795